

# Aero Design Ltd.

## Work Order Control Sheet

Work Order#: 2017-215 Date Opened: 15 December 2017 Title: Assembly

Aircraft OEM: Eurocopter Aircraft Model: AS350 Product Type: Bicycle Rack Product Model: LH Quantity: 1

### Work Order Contents

	Initial or N/A
Work Order/Build Sheets (Procedures Provided)	CB/JC
Additional Work Sheets (Standard Practice)	N/A
Drawings (See List Below)	CB/JC
Parts Distribution Sheet	CB/JC
Sub Component Tags	CB/JC
Completed Certification	JC
Time Sheet (R&D)	N/A
Notes	N/A

### Build Sheet Contents

	Initial or N/A
Tasks Initialled	JC
Dual Inspections Initialled	JC

### Drawing List

Drawing #	Rev #	Description	Initial or N/A
100210	0	Bike Rack Assembly	JC

### Traveller

	Initial or N/A
Assemble base	JC
Assemble aft frames	JC
Assemble forward frames	JC
Install placard	JC
Prepare cam straps	JC

### Component Completion

	As Instructed
Quantity Complete on This Work Order	1
Quantity Incomplete on This Work Order	N/A
Further Processing Required Before Release	N/A
Release to Stock as Components	N/A

### Certification

	Initial or N/A
Form One Completed	JC
Serviceable (Green) Tag Completed	N/A
In Process (Yellow) Tag Completed	N/A
Unserviceable (Red) Tag Completed	N/A
Parts Placed in Stores for Distribution	N/A

### Additional Documentation

	Initial or N/A
Documentation of a minor change	N/A
Non-Conformance Report Required	N/A
Service Difficulty Report Required	N/A

### Billing

	Initial or N/A
Local (Aero Design)	JC
Research and Development	N/A
Third Party	N/A

Work performed by:

Print: J. RERVE

Sign: J. RERVE

SCA: ADO1

Date: 19 DEC 17

ICC / Dual Inspection performed by:

Print: J. CLARKE

Sign: J. CLARKE

SCA: ADO2

Date: 19 DEC 17

Work Order closed by:

Print: J. CLARKE

Sign: J. CLARKE

SCA: ADO2

Date: 05 JAN 18

Approved Manufacturing Facility 73-04

Form 20.D.03

Rev. Original 23 Sep 2014

1. Approving Civil Aviation Authority/Country <b>Transport Canada</b>		2. <b>AUTHORIZED RELEASE CERTIFICATE FORM ONE</b>			3. Form Tracking No. <b>2017-0477</b>
4. Organization Name and Address <b>AERO Design Ltd. – 9888A Malaspina Road, Powell River, BC, V8A 0G3</b>					5. Work Order/Contract/Invoice <b>WO 2017-215</b>
6. Item <b>1.</b>	7. Description <b>Bicycle Rack Assembly (LH)</b>	8. Part Number <b>100210-01-01</b>	9. Qty. <b>1</b>	10. Serial/Batch No. <b>100201-20</b>	11. Status/Work <b>New</b>
12. Remarks <b>Black</b>					
13a. Certifies that the items identified above were manufactured in conformity to:  <input checked="" type="checkbox"/> Approved design data and are in condition for safe operation. <input type="checkbox"/> Non approved design data specified in block 12.			<del>14a. <input type="checkbox"/> CAR 571.10 Maintenance Release</del> <del><input type="checkbox"/> Other regulation specified in block 12</del> <del>Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the Canadian Aviation Regulations.</del>		
13b. Signature  <b>AD 73-04 02</b>		13c. Approved Organization Number <b>AMF 73-04</b>		<del>14b. Signature</del> <del>14c. Approved Organization Number</del>	
13d. Name <b>Jeff Clarke - AD02</b>		13e. Date (dd/mmm/yyyy) <b>19 Dec 2017</b>		<del>14d. Name</del> <del>14e. Date (dd/mmm/yyyy)</del>	
<p align="center"><b>Installer Responsibilities</b></p> <p>This certificate does not constitute authority to install.</p> <p>Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.</p> <p>Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.</p>					



BICYCLE RACK ASSEMBLY – 100210

Work Order: 2017-215

Complete  
(initial or SCA #)

Date Open: 15 Dec. 2017

General

These instructions apply to assembly of AS350/AS355 bicycle racks. Refer to the following drawings, at the current revision, for dimensions and details:

100210, Revision 0 – Bicycle Rack Assembly

AD  
73-01  
01

1. Assemble rack base:

- a. Install 96710-01 Fitting with two NAS1149F0663P Washers on 100230-02 Attachment Bracket, 2 places per bracket. Apply nickel based anti-seize compound to threads.
- b. Torque Fittings to 160-190 in-lbs (18.1-21.5 N-m).
- c. Apply Mastinox 6856K, Tectyl 894, or equivalent corrosion preventative compound to flanges of attachment brackets and slots on inboard side of rack.
- d. Install 100230-02 attachment brackets on inboard side of rack base using AN4-14A Bolt, two NAS1149F0463P Washers, and MS21044N4 nut, two places per bracket, two brackets per rack base.
- e. Torque AN4 bolts to 30-40 in-lbs (3.4-4.5 N-m).

AD  
73-01  
01

2. Assemble aft fixed frames, 3 places per rack:

- a. Install two 100221-01 Fixed Frames using two AN4-11A Bolts and NAS1149F0463P Washers per frame.
- b. Install 100225-01 Strap across top of frames using two AN3-13A Bolts, NAS1149F0363P Washers (2 places) and MS21044N3 Nuts.
- c. Torque AN3 bolts to 12-15 in-lbs (1.4-1.7 N-m).
- d. Torque AN4 bolts to 30-40 in-lbs (3.4-4.5 N-m).

AD  
73-01  
01

3. Assemble forward moveable frames, 3 places per rack:

- a. Assemble 100223-01 Upper Roller, 100223-02 Lower Roller, and 100222-01 (LH) or 100222-02 (RH) Cam with 100224-01 Bushings.
- b. Locate two 100220-01 Moveable Frames on either side of rail. At the forward end (with two bushings), insert AN4-60A Bolt with NAS1149F0463P Washer through bottom bushing in frame, through Lower Roller assembled above, and through frame on opposite side. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt.
- c. Raise assembly to rack. At forward end, insert AN4-60A Bolt with NAS1149F0463P Washer through upper bushing in frame, through Upper Roller assembled above, and through frame on opposite side. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt.
- d. At aft end, insert AN4-60A Bolt with NAS1149F0463P Washer through aft bushing in frame, through Cam Assembly assembled above (lever down), and through frame on opposite side. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt.
- e. Install 100225-01 Strap across top of frames using two AN3-13A Bolts, NAS1149F0363P Washers (2 places) and MS21044N3 Nuts.
- f. Torque AN3 bolts to 12-15 in-lbs (1.4-1.7 N-m).
- g. Torque AN4 bolts to 30-40 in-lbs (3.4-4.5 N-m).

AD  
73-01  
01

4. Install placard:

- a. Install 100227-XX Placard using CR3213-4-04 CherryMax rivets, 4 places per placard. Locate placard as follows:
  - i. Center placard in pocket at front end of outboard rail.
  - ii. If pocket is not machined in rail, locate placard 5/8" from forward edge of outboard rail, with rivets centered on the high ridges.

AD  
73-01  
01

5. Prepare cam straps, 3 per rack:

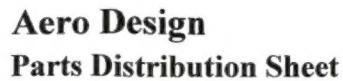
- a. Cut webbing of cam strap to 52" from end of buckle to end of strap. Cut at a 45° angle.
- b. Using a lighter, carefully melt the cut end.

AD  
73-04  
02

6. Final Inspection:

To be completed by a different person than the previous steps.

- a. Inspect bicycle rack 100210-01-XX for conformity to drawings.
- b. Check bolts have been torqued.
- c. Inspect cam straps.



WO# 2017-215

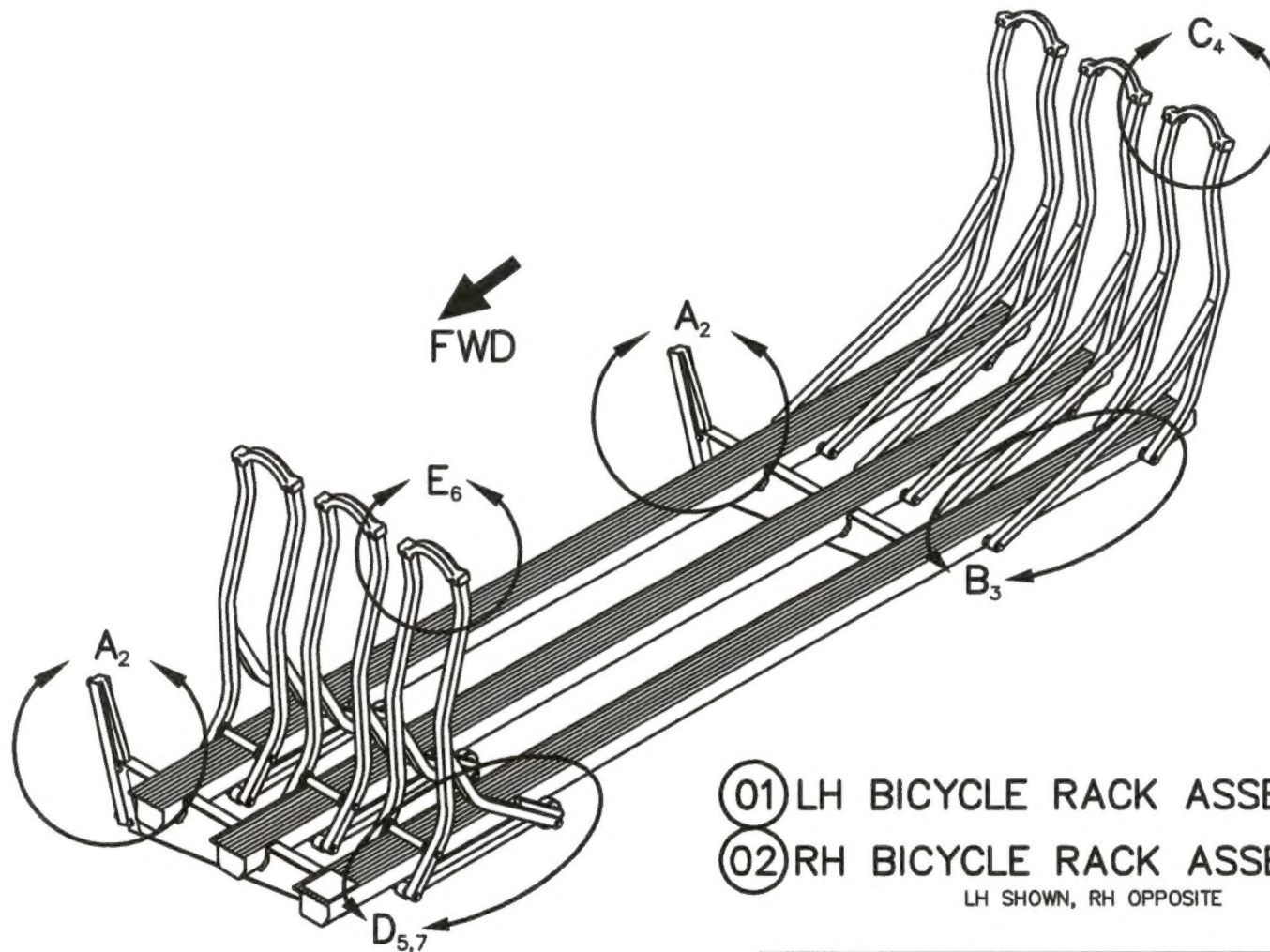
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S/N 100201-20

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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		

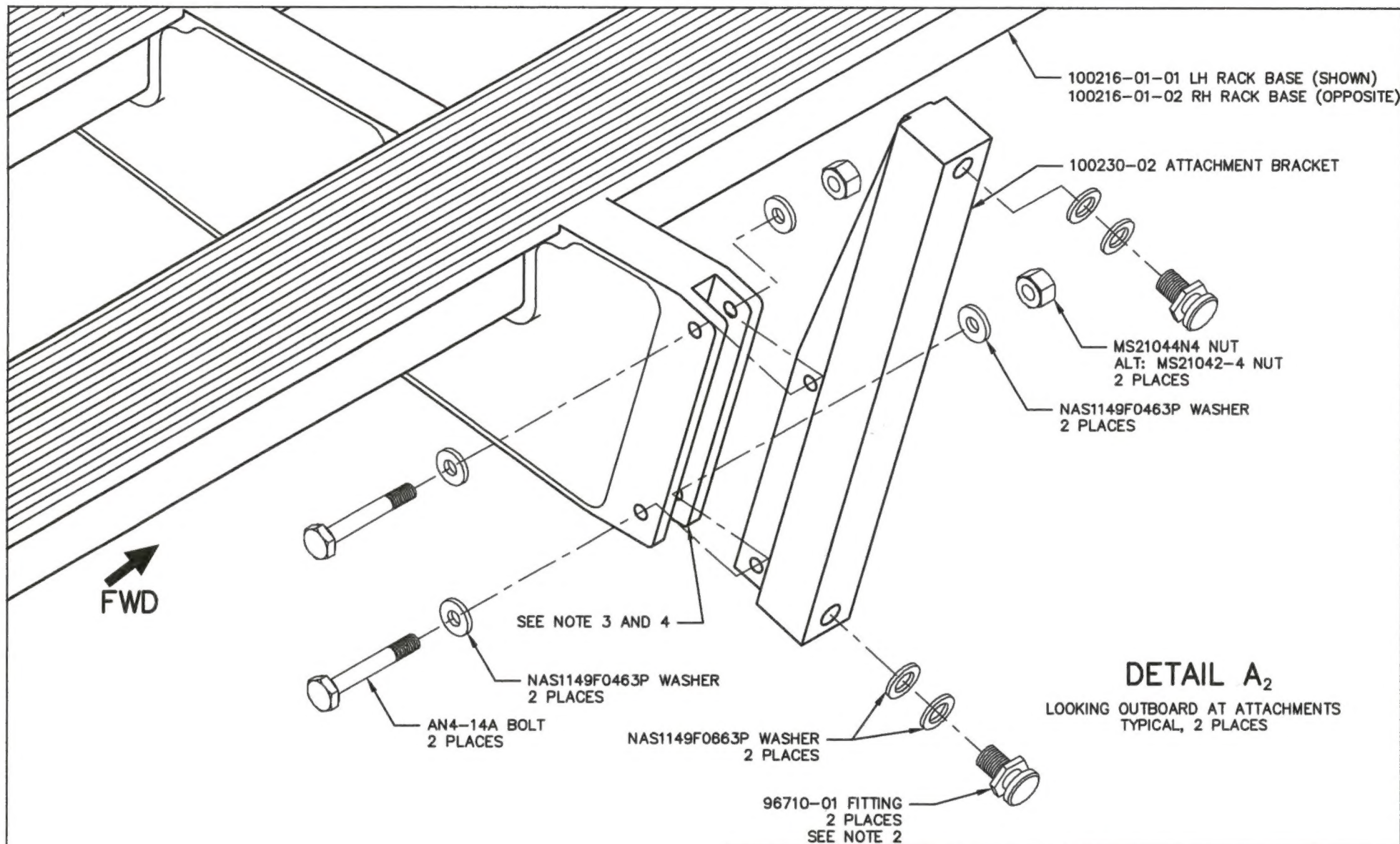


① LH BICYCLE RACK ASSEMBLY

② RH BICYCLE RACK ASSEMBLY


LH SHOWN, RH OPPOSITE

APPROVALS		DATE			<b>AERO DESIGN LTD.</b>  9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.499.2376 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a>		
DRAWN: JEFF CLARKE		30 JUNE 2016					
CHECKED: JASON REKVE		30 JUNE 2016					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS                      ANGLES X.XXX ±0.010                      ±1/2° X.XX ±0.03 X.X ±0.1				AIRBUS HELICOPTERS AS350 & AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY			
NOT TO SCALE				DWG. SIZE	DWG. NO.	REV.	
SHEET 1 OF 7				A4	100210	0	

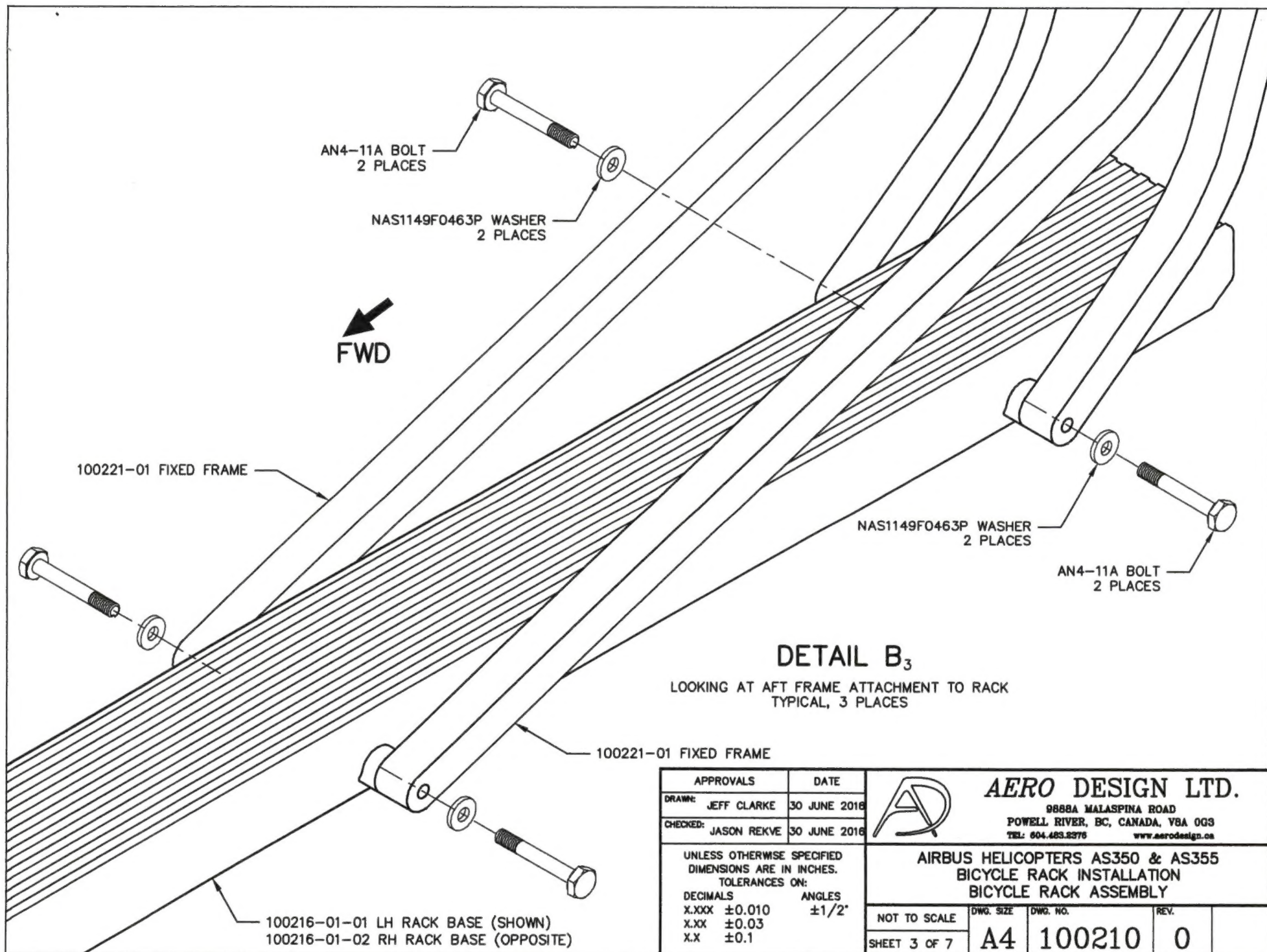



## DETAIL A<sub>2</sub>

LOOKING OUTBOARD AT ATTACHMENTS  
TYPICAL, 2 PLACES

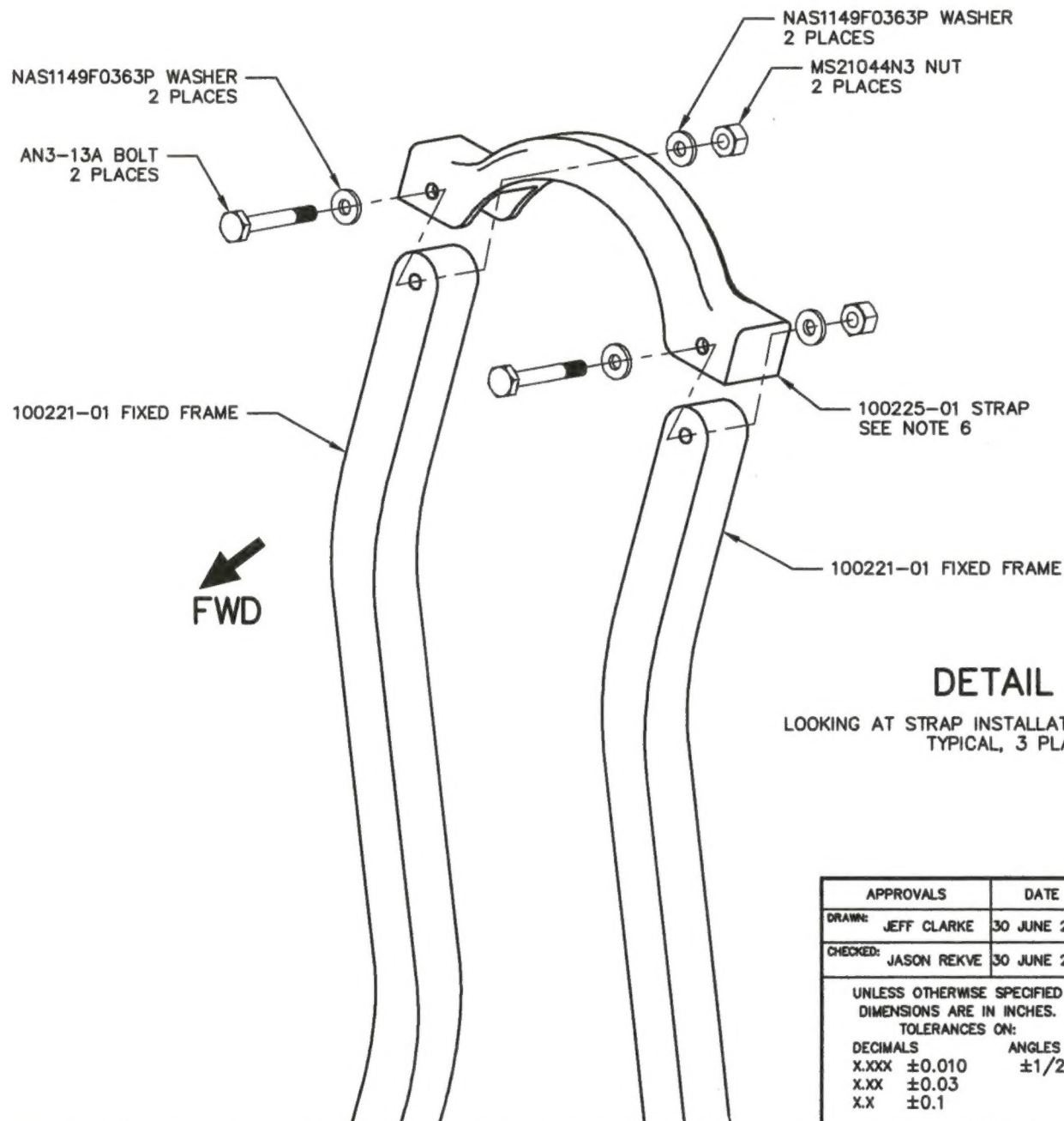
APPROVALS		DATE		 <b>AERO DESIGN LTD.</b> 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.485.2378 www.aerodesign.ca
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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS                      ANGLES X.XXX ±0.010                  ±1/2° X.XX ±0.03 X.X ±0.1				AIRBUS HELICOPTERS AS350 & AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY
NOT TO SCALE		DWG. SIZE	DWG. NO.	REV.
SHEET 2 OF 7		A4	100210	0






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NOT TO SCALE				DWG. SIZE	DWG. NO.	REV.	
SHEET 3 OF 7				A4	100210	0	

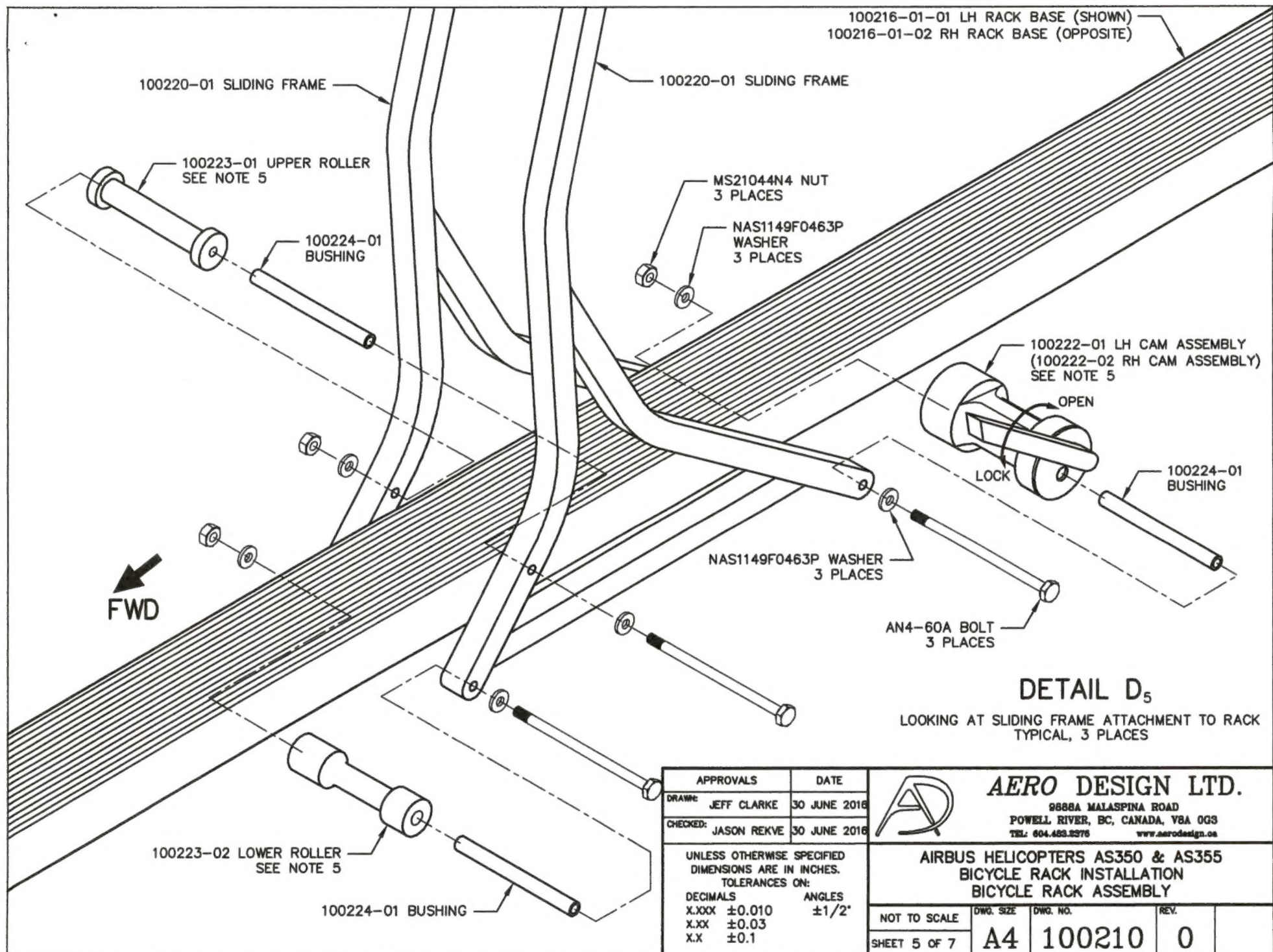




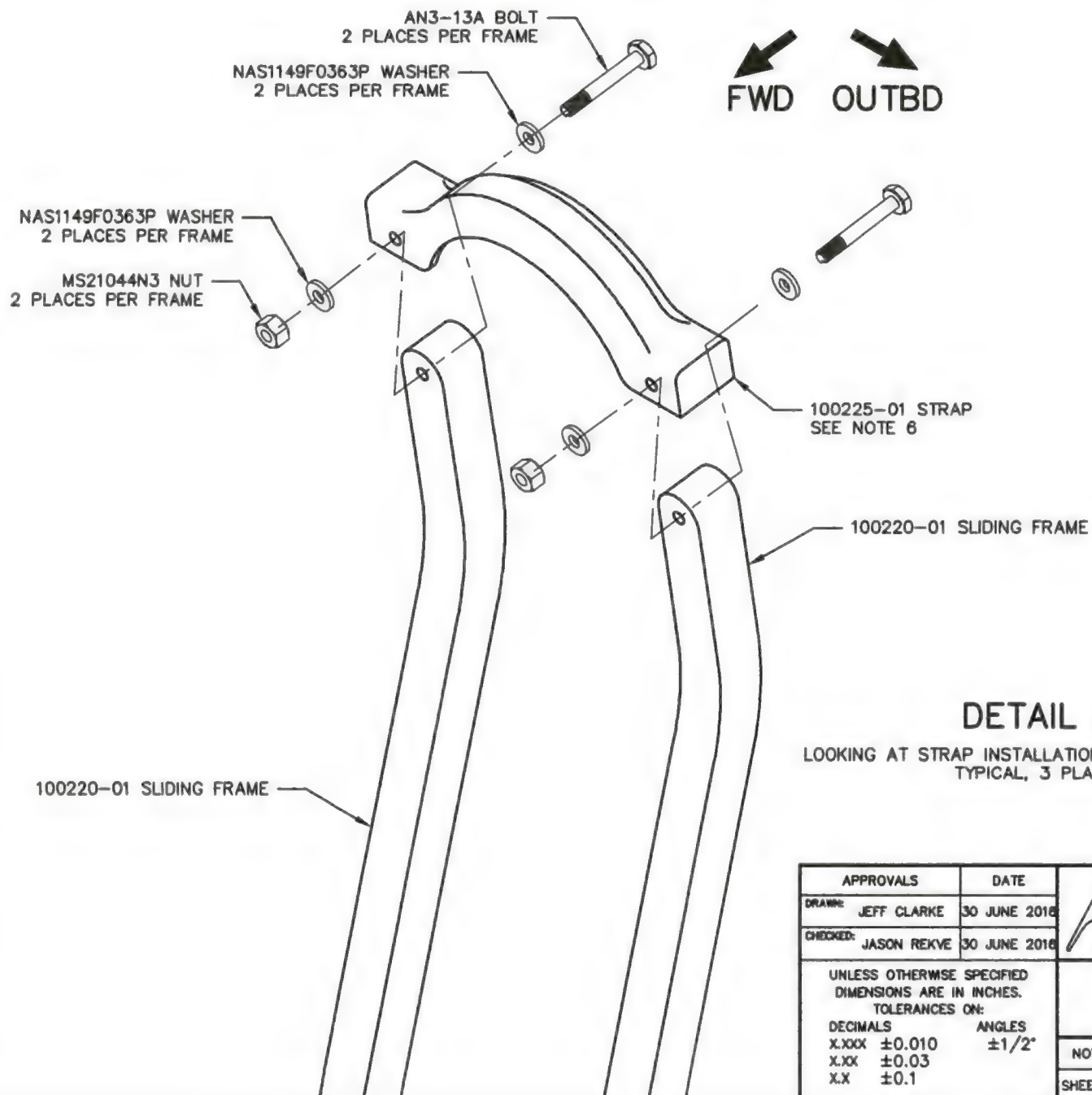
## DETAIL C<sub>4</sub>


LOOKING AT STRAP INSTALLATION ON AFT FRAME  
TYPICAL, 3 PLACES

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DECIMALS		ANGLES						
X.XXX ±0.010		±1/2°						
X.XX ±0.03								
X.X ±0.1								
NOT TO SCALE				DWG. SIZE		DWG. NO.		REV.
SHEET 4 OF 7				A4		100210		0








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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:				<b>AIRBUS HELICOPTERS AS350 &amp; AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY</b>				
DECIMALS		ANGLES						
X.XXX ±0.010		±1/2"						
X.XX ±0.03								
X.X ±0.1								
NOT TO SCALE				DWG. SIZE		DWG. NO.		REV.
SHEET 6 OF 7				A4		100210		0

# NOTES

1. INSTALL ALL HARDWARE USING STANDARD SHOP PRACTICES AS OUTLINED IN AC43.13-1B, CHAPTER 7 "AIRCRAFT HARDWARE, CONTROL CABLES, AND TURNBUCKLES" OR STANDARD AIRCRAFT WORKERS MANUAL, SECTION 7 "SHOP PRACTICES". NAS1149F0432P WASHERS MAY BE SUBSTITUTED FOR NAS1149F0463P WASHERS TO MAINTAIN 2-4 THREADS BEYOND LOCKING AS REQUIRED ON ASSEMBLY.
2. APPLY NICKEL BASED ANTI-SEIZE COMPOUND TO THREADS OF FITTING ON INSTALLATION.
3. ANY PAINT OR POWDER COAT THAT PREVENTS INSTALLATION OF ATTACHMENT BRACKET MAY BE REMOVED WITH SCOTCH BRITE. APPLY ALODINE TO UN-COATED AREAS PRIOR TO ASSEMBLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
4. APPLY MASTINOX 6856K, TECTYL 894, OR EQUIVALENT CORROSION PREVENTATIVE COMPOUND TO FLANGE OF ATTACHMENT BRACKET AND BEAM SLOT PRIOR TO ASSEMBLY.
5. ENSURE ROLLERS ARE FREE TO ROTATE WITH CAM OPEN AND FRAME SLIDES ALONG RAIL. ENSURE CAM ROTATES TO LOCKED POSITION WITH LEVER PARALLEL TO FRAME. ENSURE FRAME CANNOT SLIDE ON RAIL WHEN CAM IS IN LOCKED POSITION.
6. ANY PAINT OR POWDER COAT THAT PREVENTS INSTALLATION OF STRAP MAY BE REMOVED WITH SCOTCH BRITE. APPLY ALODINE TO UN-COATED AREAS PRIOR TO ASSEMBLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. TORQUE AN3 BOLTS TO 12-15 IN-LBS (1.4-1.7 N-m). TORQUE AN4 BOLTS TO 30-40 IN-LBS (3.4-4.5 N-m). TORQUE 96710-01 FITTINGS TO 160-190 IN-LBS (18.1-21.5 N-m).

(12)	(12)	MS21042-3	NUT (ALTERNATE)
12	12	MS21044N3	NUT
24	24	NAS1149F0363P	WASHER
12	12	AN3-13A	BOLT
(13)	(13)	MS21042-4	NUT (ALTERNATE)
13	13	MS21044N4	NUT
A/R	A/R	NAS1149F0432P	WASHER
38	38	NAS1149F0463P	WASHER
9	9	AN4-60A	BOLT
4	4	AN4-14A	BOLT
12	12	AN4-11A	BOLT
8	8	NAS1149F0663P	WASHER
4	4	96710-01	FITTING (ALT: ANCRA 40088-14)
9	9	100224-01	BUSHING
3	3	100223-02	LOWER ROLLER
3	3	100223-01	UPPER ROLLER
3		100222-02	RH CAM ASSEMBLY
	3	100222-01	LH CAM ASSEMBLY
6	6	100220-01	SLIDING FRAME
6	6	100225-01	STRAP
6	6	100221-01	FIXED FRAME
2	2	100230-02	ATTACHMENT BRACKET
1		100215-01-02	RH RACK BASE
	1	100215-01-01	LH RACK BASE
		100210-01-02	02 RH BICYCLE RACK ASSEMBLY
		100210-01-01	01 LH BICYCLE RACK ASSEMBLY
02	01	PART NO.	ITEM DESCRIPTION
QTY	QTY	LIST OF MATERIALS	

APPROVALS		DATE	
DRAWN: JEFF CLARKE	30 JUNE 2016		
CHECKED: JASON REKVE	30 JUNE 2016		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2" X.XX ±0.03 X.X ±0.1		AERO DESIGN LTD. 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.485.2376 www.aerodesign.ca	
AIRBUS HELICOPTERS AS350 & AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY			
NOT TO SCALE	DWG. SIZE	DWG. NO.	REV.
SHEET 7 OF 7	A4	100210	0





## Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Bike Rack Base No. of pieces: 1

Manufacturer: Aero Design Ltd.

Part No.: 100215-01-818 Serial/Batch No.: NA

TTSN: NA TSO: NA Rem.: NA

Work Order No.: 2017-147

Remaining Tasks to be Performed: Clean up, inspect,  
powder coat.

Signature: David Marty

Date: Oct 5/2017 Lic. No. / SCA AD 73-04

Form# 20.E.03

Rev. 1 24 April 2014

In Process



## Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Fixed Frame No. of pieces: 6

Manufacturer: Aero Design Ltd.

Part No.: 100221-01 Serial/Batch No.: NA

TTSN: NA TSO: NA Rem.: NA

Work Order No.: 2017-96

Remaining Tasks to be Performed: Install

Signature: David Marty

Date: Dec 19/2017 Lic. No. / SCA 73-04

Serviceable





## Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Movable Frame No. of pieces: 6

Manufacturer: Aero Design Ltd.

Part No.: 100220-01 Serial/Batch No.: NA

TTSN: NA TSO: NA Rem.: NA

Work Order No.: 2017-96

Remaining Tasks to be Performed: Install

Signature: David Marty

Date: Dec 19/2017 Lic. No. / SCA